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Exercising Change: Investigating the Changes in Physical Activity of Undergraduate Students

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Exercising Change: Investigating the Changes in Physical Activity of Undergraduate Students

by

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Report

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DEDICATION

This work is dedicated to my mom, Laurie, brother, Devlin, my Fiancé, Pat Evoe, & Nana who have supported, encouraged, and inspired me in all of my educational goals and dreams.

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Exercising Change: Investigating the Changes in Physical Activity of Undergraduate Students

Publication No._____

Megan Diane O'Connor, M.A.

The University of Texas at Austin, 2012

Supervisor: Xiaofen Keating

When it comes to researching the physical activity levels of college students, there seem to be very few studies that truly depict and show the ranges of physical activity throughout a college student's life. This statement has helped propelled me to collect and analyze data in order to see what the physical activity is like for an undergraduate college student at the University of Texas.

Researchers have discovered that many college students have reported understanding the benefits of physical activity, but that they report that there are many barriers in their daily life that thrust physical activity into the backseat as a priority (Lopez, Gallegos, & Extremera, 2010). Knowing that some college students will ignore physical activity, regardless of the health-related benefits, urges us to further discover the attitude of college students towards physical activity and what factors seem to have the

most affect, whether positively or negatively, when it comes to their decisions on physical activity.

Many university students decrease their PA levels (Gyurcsik, Bray, & Brittain, 2004; Keating et al., 2005; McArthur & Raedeke, 2009). Knowing this, I seek to answer the question, "What happens to the levels of physical activity throughout an undergraduate student's life and what are the contributing factors to their level of physical activity?"

Researchers noted that a healthy college-aged student should be participating in at least 30 minutes of moderate physical activity at least 5 days per week (Nelson, 2007). My thesis is an analysis of daily and weekly activity, as well as what kinds of physical activity college students like and do not, the way in which they participate, either independently or with friends, as well as where they partake in physical activity.

My subjects answered questions based on their physical activity levels throughout their college years. The subjects ranged between first and fifth year undergraduate students, which allowed me to get some insight as to how their physical activity levels have changed throughout the duration of their college careers.

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Chapter 1: Introduction

"Lack of activity destroys the good condition of every human being, while movement and methodical physical exercise save it and preserve it." ~Plato

Statement of the Problem

One of the biggest rumors many high school seniors hear before entering their freshman year of college is that they will most likely gain the "freshman fifteen." This term is used to describe the fifteen pounds sometimes gained during the transition year from home-cooked meals to an abundance of both healthy and unhealthy options provided for college students to select from as they roam their campuses. Suddenly, college students, for the most part, are living independently for the first time in their lives and are presented with a completely more complex and self-reliant life than as a high school student.

Many high schools have a very limited offering of food choices in school cafeterias, unlike many college campuses where the cafeterias, fast food establishments, and abundance of delivery eateries line the streets. It is here on college campuses where college students suddenly are exposed to an array of nutritional choices and where once healthy young adults can fall victim to unhealthy foods and eating habits.

However, it is not just the nutritional choices that may be altered as a student enters college and contribute to the "freshman fifteen," but it is also the level of physical

activity a student chooses to participate in throughout their college career, that can have an immense impact on their overall current and future health and lifestyle. According to researchers, late adolescence and early adulthood is one period of declining activity, although the tracking of physical activity during this period remains understudied (Nelson, 2007).

As the research has discovered, it is apparent that during a student's high school years, the decline of participation begins as the transition to college and early adulthood begins. Many wonder why this sudden decline begins when one might think that after years of middle school and high school health and physical education classes, students would already have a strong foundation of knowledge when it comes to the importance of physical activity. In the United States, not every state is mandated to have Physical Education class every day for every student because each state is allowed to write its own state requirements when it comes to middle school and high school credits (Jaynes, 2010). The fact that the states are allowed to govern their physical activity in school on a state-by-state basis keeps the nation on divided turf when it comes to setting a precedence of the importance of physical education and physical activity amongst our students. In Texas specifically, middle school students are only required to take Physical Education two out of their three years while high school students are only required to half of a year of Physical Education out of their four year career. Most high schools across the nation require that students take their "core subjects," which include Science, Social Studies, Math, and English, every year of their high school careers because of their overall

importance on their future academic and future careers (Jaynes, 2010). Not requiring our students to partake in Physical Education every year, could be a contributing factor in sending the message from a young age that physical activity is not important or beneficial. The messages researcher suggest we send is that physical activity is not only important for our bodies, but for our minds, well-being, and overall health (Strubar, 2008).

According to studies, researchers noted that a healthy college-aged student should be participating in at least 30 minutes of moderate physical activity at least 5 days per week (Nelson, 2007). Knowing the type and frequency of physical activity that is required for college students to be healthy, it is imperative to see exactly what is inhibiting as well as motivating for college students to take part in physical activity. With all of the academic and personal changes that may arise throughout a college student's career, it is possible that the levels of physical activity within a college student may remain constant, change, or be eliminated as they purse their college degree.

PURPOSE OF THE STUDY

Once a student graduates high school and enrolls in college, the course selection options suddenly go from a very basic, predetermined high school courses to what can seem like a never ending amount of college course selections, representing all of the areas of study. Although college students get to pick their area of study, or major, which ultimately determines the kinds of classes they must take, they still typically have a set of

general set of core classes they must take before beginning their major course work. However, the one class that is not required at over 86% of colleges and universities across the United States is a Physical Education class (Riley, 2006). It is possible to say, based on this study, that once a student enters college, their physical activity is no longer of high importance if it, unlike high school, is no longer required as part of the curriculum.

When it comes to researching the physical activity levels of college students, there seem to be very few studies that truly depict and show the ranges of physical activity throughout a college student's life. According to researchers, late adolescence and early adulthood is one period of declining activity, although the tracking of physical activity during this period remains understudied (Nelson, 2007). This statement has helped propel and encourage us to collect data in order to see what the physical activity is truly like for an undergraduate college student throughout their college years.

Not only does research seem to lack findings based on the trends of physical activity of college students, we also seem to lack a true understanding of the barriers or motivational tools that play a role in a college student's willingness, or lack of, to engage in physical activity. Researchers have discovered that many college students have reported understanding the benefits of physical activity, but that they report that there are many barriers in their daily life that thrust physical activity into the backseat as a priority (Lopez, Gallegos, & Extremera, 2010). Knowing that some college students will ignore physical activity, regardless of the health-related benefits, urges us to further discover the

attitude of college students towards physical activity and what factors seem to have the most affect, whether positively or negatively, when it comes to their decisions on physical activity.

Many university students decrease their PA levels (Gyurcsik, Bray, & Brittain, 2004; Keating et al., 2005; McArthur & Raedeke, 2009) and only 30% to 50% of university students meet the recommended amount of PA for health benefits (Keating et al., 2005; Racette, Deusinger, Strube, Highstein, & Deusinger, 2005), and in knowing this, it is important, as researchers, to answer the question, "What happens to the levels of physical activity throughout an undergraduate student's life and what are the contributing factors to their level of physical activity?"

Researchers noted that a healthy college-aged student should be participating in at least 30 minutes of moderate physical activity at least 5 days per week (Nelson, 2007). My study looks to analyze not only how much daily and weekly activity, but also what kinds of physical activity college students like and do not, the way in which they participate, either independently or with friends, as well as where they partake in physical activity, such as outdoors, in their homes, or at the gym.

Some of our college students may have come from a pre-college lifestyle where their participation in physical activity was rather high or extremely low. By asking questions based on their pre-college physical activity levels, environment, sports-related activities, and many other factors that contribute to physical activity, such as attitude by a student, we will have a good basis for our research as we analyze the factors that

contribute to a student's level of physical activity. We will continue to inquire about our subjects levels of physical activity at the college level so that we will have a better gauge of how their activity has changed or stayed constant through their college journey.

Through further inquiry, our subjects will then begin to answer questions based on their physical activity levels throughout their college years. Due to the fact that our subjects will range between first and fourth year undergraduate students, we will get some insight as to how their physical activity levels have changed throughout the duration of their college careers.

This survey is designed to study UT related factors that influence students' participation change in physical activity. The survey is distributed among students with a variety of interest, some of which may not be interested in this subject and disregard the emails or posts we send out, potentially leading to a biased result. In many studies it is mentioned that socioeconomic factors are also strongly associated with physical activity however we assumed our sample to have a similar range of SES and we didn't consider the effect it would have.

Therefore, the present study aimed to investigate the changes, if any, of undergraduate students at the University of Texas-Austin and their Physical Activity levels and the factors that contributed to these changes. The study looks to provide information on how student's view, and act on, their perceptions of physical activity while their lives change over their undergraduate years**.**

RESEARCH QUESTIONS

1. (a) Does the amount of physical activity change throughout the years in undergraduate students at the University of Texas-Austin?

   (b) If changes in physical activity occur, does the amount of physical activity increase or decrease overall?

2. (A) Where and when do they usually go to get physical activity?

   (b) What environment is the most/least comfortable for students to engage in physical activity?

3. (a) What is the relationship between the effort levels and perceptions of students and the amount of physical activity in which they participate?

   (b) Which effort levels are seen the most amongst college student as they participate in physical activity? : Vigorous, Moderate, or Mild

4. (a)How has the student's physical activity level changed since the previous year?

   (b) If no change has occurred, why not?

   (c) Has the awareness of the importance of physical activity changed since the last school year?

   (d) If there are changes, what are the leading factors?

5. (a) What is the relationship between a students's major of study at the University of

   Texas-Austin and the amount and kind of physical activity?

(b) How does a student's major area affect an increase or decrease in the amount physical activity they receive?

6. Does having a job while attending college affect levels of participation in physical activity?
7. (a)In what country and state did the student attend high school and

   (b) Does pre-college environment affect the level of college students and their amounts of physical activity?

Chapter 2: Literature Review

This literature review summarizes five strands of research relevant to the effect of physical activity amongst college students as well as the changes that occur throughout their undergraduate years and the factors that contribute to any changes. The first strand defines physical activity and it's three main components, which will help with understanding the remaining parts of the literature review when discussing what is it is undergraduate students are doing versus what they should be doing when it comes to physical activity. The second strand delves into the research that explains the decreasing physical activity levels of undergraduate students and the possible causes. The third strand discusses the research that shows that there is an increase in some undergraduate college students. The fourth strand analyzes the effects of the amount of knowledge undergraduate college students had growing up when it comes to physical activity. Finally, the fifth strand depicts the role of technology in the amounts and changes of physical activity in undergraduate college students.

Definition of Physical Activity

The term physical activity refers to "any bodily movement produced by skeletal muscles that requires energy expenditure." There are many benefits to physical activity such as that it can reduce the risk of cardiovascular diseases, diabetes, colon and breast cancer, and depression as well as help with weight-control and bone strength and density (World Health Organization, 2008). Not only does physical activity help against diseases,

but it makes the human body more efficient when it comes to blood flow, avoiding clotted arteries, and increasing the elasticity of our arteries. Overall, physical activity can improve the quality and longevity of life (Dana, M., Malone, K., 2009).

However, researchers note that along with the benefits of physical activity, that the intensity and frequency of physical activity is important. There are three main categories of physical activity. The first is vigorous physical activity and it is defined as when you are breathing rapidly and only able to speak in short phrases. Your heart rate is substantially increased and you are likely to be sweating. Exercises that fall into the category of vigorous physical activity include running, soccer, and skiing.

The second category is moderate physical activity. A moderate level of activity noticeably increases your heart rate and breathing rate. You may sweat, but you are still able to carry on a conversation. Exercises that fall under the category of moderate physical activity include fast walking, tennis, and volleyball.

The last category of physical activity is called mild physical activity. Mild physical activity may take many forms, generally notable for low impact on joints and a relatively undemanding pace. Physical activities that are considered mild include yoga, golf, and bowling.

It is recommended that college students engage in at least two vigorous forms of physical activity per week and 1-2 moderate and mild physical activities per week. It is recommended, to fully benefit from physical activity, for these college students to engage in physical activity at least 5 days per week (World Health Organization). Physical

activity, some researchers say, is as important in a young adult's life as college itself as it helps not only the body, but the mind (Dana & Malone).

College Begins As Physical Activity Decreases

Researchers have discovered that many university students decrease their PA levels (Gyurcsik, Bray, & Brittain, 2004; Keating et al., 2005; McArthur & Raedeke, 2009) and only 30% to 50% of university students meet the recommended amount of physical activity for health benefits (Keating et al., 2005; Racette, Deusinger, Strube, Highstein, & Deusinger, 2005). Researchers discovered that a healthy college-aged student should be participating in at least 30 minutes of moderate physical activity at least 5 days per week (Nelson, 2007), which in comparison to what college students are actually doing, there seems to be quite a gap when it comes to physical activity and college students.

What could possibly be the most alarming information when it comes to college students and the decrease in physical activity that researchers have discovered that many college students have reported understanding the benefits of physical activity, but that they report that there are many barriers in their daily life that thrust physical activity into the backseat as a priority (Lopez, Gallegos, & Extremera, 2010). Knowing this, researchers have analyzed not only the barriers, but the key issues that propel college students to decrease their amounts of physical activity.

One of the leading possible culprits in the decrease of physical activity in college students seems to be the fact that college is a major time of transition in a student's life. Researchers say it is possible that, because it is the first time a student is responsible for leading a healthy lifestyle, managing their own time, and make time to exercise, many of them do not keep up with regular physical activity (Johnston, 2010). Up until college, many students lived at home and had guidance and support from parents and guardians when it came to their food, studying, and lifestyle choices. Suddenly, as a college student, the role of care-taker falls directly on the student. If nobody is encouraging them to engage in physical activity, they may not be as likely to participate and chose other ways to spend their time. One study provided evidence that showed that physical activity rated decline from the high school to the college years (Miller, K., Staten, R., Rayens, M, & Noland, M., 2005). The study followed a cohort of freshman college students, 66.2% who were classified as active during the last two months of high school, but that proportion decreased to 44.1% during their first two months of college. As the numbers in this study show, there is a decrease of over 20% in the amount of physical activity in the time high school seniors became college freshman.

One of the other possible reasons physical activity decreases during the college years has to do with the transition theory and the nutritional component. As stated earlier, students in college have more independence in choosing their food, which can relate to the levels and amount a college student chooses to participate in when it comes to physical activity. It was found that college freshman and sophomores tend to have higher

percentages of weight gain as well as an increased BMI than juniors and seniors, due to the possibility that, being newer to the transition period into college, they may have a more difficult time adapting to their new found independence, and quickly neglecting physical activity while eating less healthy (Brevard, PB, Ricketts, CD., 1996).

Transitioning from not just a high school student to a college student, but from year to year in their undergraduate career, the levels of responsibility and stress are likely to increase. Researchers have found that as college students enter their upper class work, usually as juniors and seniors, the stress levels increase while the physical activity level decrease (Bhandari, M., 2007). Physical activity, on the flipside, was also noted as a possible stress reducer in both thoughts and behaviors (Dana & Malone) it is very possible to equate that the amount of stress a student feels from class work, tests, and school overpowers their will to take time to engage in physical activity.

The Miniscule Findings on Increasing Physical Activity

Although the research regarding physical activity levels in students at the college level mostly shows a decrease in a student's physical activity participation, there are in fact a short list of researchers and studies that indicate that physical activity levels in college students may increase.

A recent study on undergraduate students across 10 large universities in the Midwest looked at the physical activity levels of students who are involved with campus organizations, such as fraternities, sororities, and student government. Based on

questionnaires taken by college students involved in campus organizations versus students who were not, the study showed that those students involved reported to be more physically active than those who were not involved (Freed, L, & Moss, S., 2011). This could indicate that students who are involved in social settings and scenarios through an organization may feel that physical activity is more important than those who are uninvolved.

College students have reported that they feel they have increased their levels of physical activity in college because "everyone is judging you on your looks more than in high school and there is a lot of pressure to look your best," (Freed & Moss). With this said, it is possible to say that the pressure that comes with being a college student is more magnified than it was in high school. It could be that because that the perception of college students to be physically attractive does increase, which in turn, creates an increase in the amounts and levels of physical activity.

The other major source that is noted in heightening the amount of physical activity amongst college students is society's pressure to look a certain way. Today the internet is booming with pictures of athletes and celebrities and there are an array of magazines and other sources of media that cater to attractive people. Researchers have found that the immense pressure on young adults to look thin and beautiful is one of the main motivating factors for college students to engage in regular physical activity (Strubar). Although this study finds a more extrinsic motivator, none the less, it is still

one carrot that is dangled in front of college students when it comes to participating in physical activity.

Growing Up & Physical Activity

A Physical Education teacher reported that, for her, the indicator that she is a good teacher is that her students have retained and applied what she has taught them through their educational experiences with her 5, 10, or 50 years later. However, it is not a secret that every Physical Educator out there cares as much about her student's lifetime of physical activity as others.

One of the most reoccurring topics relating to the amount of physical activity to which college students participate seems to come down to their exposure to physical activity growing up. Starting with a college student's parents, researchers are able to note that those with parents and guardians who not just valued, but participated themselves, in regular physical activity had kids who were more physically active than those who did not advocate or participate for physical activity (Allison, P.C., & Pissanos, B.W., 1993). It could be said that if a child is introduced to physical activity early on in their life and it is part of a regular routine, by the time they are in college, they too will make physical activity a part of their weekly regime. Children tend participate in more physically active, both in organized and unorganized play, if they see their parents as role-models of physical activity (Cogerino, G., 2006). The study also emphasized that parents who

encouraged their children to play both inside and outside of the house, were more involved in weekly activity as college students (Allison & Pissanos).

Even if the parents are not involved in a child's life when it comes to physical activity, school is another area, starting in elementary school, where they are regularly exposed to physical activity through Physical Education. Students are more likely to engage in physical activity, both in and out of school, and throughout their lifespan if they adopt positive attitudes towards physical education lessons early on in childhood (Luke, P., & Sinclair, J., 1991). Although it is out of a child's hands as far as how good their physical education teacher is or how many days their state mandates students in which to participate, the more apparent issues is that having a positive experience in Physical Education can possibly encourage a student to participate in physical activity throughout their life, particularly during their college years.

The last reoccurring finding when it comes to physical activity in college students and their childhood experiences comes down to a child's environment. In one study, researchers looked at a student's home environment to find any correlations between the levels of physical activity and student's accessibility to areas of play. The findings showed that college students who grew up playing at parks, in backyards, or in a neighborhood were more physically active than college students who did not play in their surrounding environment on a regular basis (McKiddle, B., & Maynard, I. W., 1997). Kids who grow up where they can be active, creative, and play with other kids, are more

likely to be overweight or obese than those who did not spend their childhood with regular physical activity in a play-like setting (Harter, S., 1998).

It is apparent, based on existing studies and research, that college students have a more likely chance to be participants in regular physical activity than those who did not grow up with a the support of their family, school, and surroundings when it comes to physical activity.

Physical Activity and Technology

Just as it was stated earlier, college is a time of great change and transition for many of its students. The opportunity to make independent decisions is up to the student alone, and one very important decision is the level of physical activity they experience. However, with the overwhelming amounts of technology available to college students, it is not a huge surprise that the levels of physical activity are rapidly decreasing and that college students are becoming more sedentary with their technology at their fingertips.

According to the 2008 National College Health Assessment, 18% of college students engage in physical activity five or more days per week, with 23.3% reporting zero physical activity in the last seven days. These numbers indicate much lower than what is recommended by the guidelines of weekly physical activity levels for college-aged students, as mentioned earlier in this paper.

Sedentary behavior is perceived to have increased in the past decade, in large part due to increased computer and internet usage (Liguori, Gary, 2011). Screen time, in this

study, is defined as “time spent using computers, watching television or DVD’s, playing video games, or engaging in social networking. This study also found, based on its research survey that students totaled, on average, over three and a half hours per day in screen time. It was also noted through the findings, that the same college students engaged in 90 minutes a day of school work. This number is more than half of the amount of time spent in screen time. With the boom of social media tools such as Facebook, Linkedin, and Skype, to name a few, it is possible that being at college increases the amount of time that college students look to connect to family and friends rather than participate in physical activity. As discussed earlier, going through a transition period of college, or being away from home for the first time, could cause some students to stay technology bound in order to actually feel more at home in their college life.

In regards to sedentary behaviors in college students, researchers have found that on average, a college student watches over 11 hours of television, nearly half a day, during the week (Marshall, SJ, Gorely, T., Biddle, SJH, 2009). This number has increased from 8 hours using the same researching tool, by the same researchers in 2006. This is a possible indicator that physical activity is decreasing due to many of the new technologies that have been developed for televisions, such as Netflicks or the systems that allow people to record their shows and watch them when they are available.

Studies also show that researchers have found that the internet has increased in its role as a tool for college students when it comes to academia (Rideout, VJ, Foehr, UG, Rovers, DF, 2010). Not only is e-mail a widely used form of communications for

students and professors, but with new technology, but many school assignments are done and submitted to the professors through technology. Students are often required to do assignments that require a typed paper, a power point, or even show clips of a video, which forces them to spend time in front of a computer or other piece of technology. Schools have found many ways for their students and classes to function using various technology tools and this could be part of the reason students tend to spend more time in front of a screen and less time engaged in physical activity.

It could be said that the technology boom has aided to the increase of college students who chose to sit in front of a screen, rather than participate in physical activity. With all of the updated technology that has come out and is currently being developed, it is not a surprise for researchers to study the effects of technology on college students.

Perspective on Physical Activity and College Students

Studies have found that college students who engage in five days a week of regular physical activity tend to improve in their academic performance (Wechsler, H., 2010). In knowing this finding, it would seem as though most college students would choose to participate in regular physical activity if they could not find any other form of intrinsic motivation to do it in the first place. The research did not find any doubtful reasons as to why college students should avoid physical activity, but yet the studies indicate that many of them do. However, the research does explain the many benefits for college students to engage in physical activity as well as the possible explanations as to

why some college students have made physical activity a part of their life while others have dismissed it.

Therefore, these studies have examined the realm of physical activity, the explanations for decreased and increased physical activity of college students, and the factors and barriers that related to the role of physical activity in a college students life.

Chapter 3: Method

The study addresses changes, if any, of undergraduate students at the University of Texas-Austin and their physical activity levels and the factors that contributed to these changes. The study also looked to discover how student's view, and act on, their perceptions of physical activity while their lives change over their undergraduate years**.** It is expected that the student's levels of engagement in physical activity would be related to the academic, personal, and social life as well as any prior knowledge about the benefits of physical activity they have prior to enrolling as a college student. To investigate the interrelationship between these variables and physical activity, quantitative research methods were used. This chapter describes the research questions, the participants, measures, procedures, hypothesis and data analysis.

RESEARCH QUESTIONS

The following questions guided this study:

1.(a) Does the amount of physical activity change throughout the years in undergraduate students at the University of Texas-Austin?

(b) If changes in physical activity occur, does the amount of physical activity increase or decrease overall?

2. (a)What types of physical activities occur the most and least amongst the participants?

(b) Where do they usually go to get physical activity?

(c) What environment is the most/least comfortable for students to engage in physical activity?

3. (a)How has the student's physical activity level changed since the previous year?

(b) If no change has occurred, why not?

(c) Has the awareness of the importance of physical activity changed since the last school year?

(d) If there are changes, what are the leading factors?

4. (a) What is the relationship between a students's major of study at the University of Texas-Austin and the amount and kind of physical activity?

(b) How does a student's major area affect an increase or decrease in the amount physical activity they receive?

5. Does having a job while attending college affect levels of participation in physical activity?

6. (a)What country and state did the student attends high school?

(b) Does pre-college environment affect the level of college students and their amounts of physical activity?

PARTICIPANTS

Participants for this study were INSERT # undergraduate students at The University of Texas-Austin, who were enrolled in the Spring 2012 semester. The students

were asked to participate in the study with the approval of the university's Institutional Review Board. The students did not receive any academic or personal benefits for their participation in the study, nor did their instructors have any indication that of their choice as to participate or not in this study. There were 110 total participants in this study. The females represented 57.1% (76 total) of the total participants while the males made up 25.6% (34 total) of the study.

MEASURES

The students completed a total of four measures designed to identify their demographic information, physical activity levels, types of physical activities, and the factors that influenced their levels of physical activity. All measures were student self-report instruments. The scale of the instrument was multiple choice with the option to fill in an answer in an empty box below the answers listed. Some of the questions offered a seven point Likert scale to help them respond consistently across the survey. On the demographic information, students were asked to report sex, year in school, age, major, and ethnicity.

Because the measures had been designed to discover the physical activity levels of an array of students, the study used the word "exercise" instead of "physical activity" in the survey. The reason for this was to make sure that they were not confusing the two terms which basically mean the same thing. However, because there are three distinct categories of physical activity, strenuous, mild, and moderate, we used the more common word exercise in order to keep the results accurate. Although exercise means a person is

being physically active, what we did not want were our students to confuse what physically active was and perceive it as something other than exercise.

Levels of Physical Activity

Our study looked to measure not just how much physical activity our students participated in, but also to discover the levels of physical activity in which they participate. The reason we measured the three distinct levels of physical activity is to see how much energy our students exert when they participate in an activity. For example, one student may say they walk six days a week while another student claims that they run four days a week. Although the student who walks six days a week may seem like they are getting more exercise, it does not necessarily mean that more days a week means more exertion of calories or energy. The student who may be running 4 days a week could possibly keep a pace that would far exceed the amount of energy expended by the walker. For example, the student who runs, say at a nine minute pace versus the walker who walks a fourteen minute pace, would be using more effort, burning more calories, and in theory, working their cardiovascular system harder.

It is for this reason that we asked our students how many minutes per week they participate in physical activity that is considered strenuous, moderate, or mild. Under each of the three categories of physical activity, I used the universal standard activities and grouped them accordingly in order to be properly measured. The students then

answered how many times in a seven day period that they participated in each or one of the activities under each of the three categories.

By collecting data on the different physical activity levels, we were able to also examine any patterns of physical activity when it came to the intensity and frequency. By allowing the students to plug in the number of times they participate in vigorous, moderate, and mild physical activity we can see if there are any patterns when it comes to the student's effort levels. With this information, it allowed us to examine just how much intensity is exhibited in undergraduate students and compare their results to what is recommended for physical activity in young adults. This could possibly allow us to have more insight as to what students perceive "enough" exercise as being.

Types of Physical Activity

The students were asked in the survey how many times, in a seven day period, did they participate in the following kinds of activities for more than fifteen minutes. When categorizing physical activities that fell under the category of strenuous physical activity, the following exercises were considered: running, jogging, hockey, football, soccer, squash, basketball, cross country, skiing, judo, roller skating, vigorous swimming, vigorous long distance bicycling, and strenuous weight lifting.

When it came to moderate physical activities, the following activities were considered to be in this category: fast walking, baseball, tennis, easy bicycling,

volleyball, badminton, easy swimming, alpine skiing, popular and folk dancing, and moderate weight lifting.

The third and final category, mild exercise, included the following forms of physical activity: yoga, archery, fishing from a river bank, bowling, horseshoes, golf, snow-mobiling, and easy walking. The students, when considering all three categories when answering the survey questions, were given the option to add their forms of physical activity not mentioned on the survey.

Factors that Influenced Change in Physical Activity Levels

In wanting to know what, if any, changes in the physical activity levels of the undergraduate students, we needed to analyze all of the possible factors that could possibly influence these changes. In order to measure these contributing factors, the survey not only questioned the student's undergraduate academic life, but also the student's personal, social, and accessibility when it comes to physical activity. As a college student enters college, most aspects of their life tend to change due to the enormous shift in the dynamics of their personal interests, environment, and needs (Johnston, 2010). It is for this reason we must question the students in all aspects of their college lives to see what are the contributing factors in their change, if any, in their levels of physical activity.

To get background information about each student's academic life, both prior to coming to college as well as currently, the survey asked them questions about what state

they graduated high school from, what year in college they are, what their major is, and are they enrolled as a full-time or part-time student. The reason for asking what state they graduated high school from we can analyze and compare the parts of the country and see what, if any, trends may be forming as far as having certain states that could possibly do a better job of promoting physical activity. In asking their year in school as well as their major, we are able to analyze if both the year in school and the major of study have anything to do with trends with a change in the amount of physical activity in a student over their undergraduate career. We also asked if the students felt that they had gained any knowledge about physical activity based on their major of study. By understanding how a major could influence a student's participation in physical activity, we may be able to find patterns that prove certain majors influence or decrease the importance of physical activity. Last, we are able to ask about their academic standing as a full or part-time student which could possibly influence the amount of time a student has to participate in physical activity.

When it comes to personal preference and physical activity, we questioned our students in order to see how, or if, their levels of physical activity changed based on various factors. The first personal preference items we questioned our students about were the time of the semester they chose to exercise, such as weekdays, weekends, holidays, or no preference. Along with that, we also questioned our students about what time of day they prefer to engage in physical activity with their options being morning,

afternoon, night, or whenever they had time. By looking at these factors, we can analyze how the time of day and times during the semester may influence any changes.

The next major area we examined through our survey questions were the social aspects of physical activity and how they affected any changes in the student's participation levels in physical activity. In this section of the survey we asked students questions that examined the way interacting with friends influenced their willingness, or lack of, to participate in physical activity. For example, we wanted to know if participating in physical activity was preferred alone, with friends, or if it mattered at all. We also addressed the questions to find out if engaging in physical activity was a means for a social outlet as well as if it helped establish friendships. \

The last major factor we looked to discover was the accessibility factor. Through our survey, we started with specifics about the area, on or off campus, where the students live. We also asked them if they felt there were enough locations that provided physical activity for students, both indoors and outdoors such as gyms and parks, where they could engage in physical activity. We also wanted to determine, using a seven point Likert scale, factors that possibly influenced or deterred students from engaging in physical activity. Some examples of factors we included on the survey asking about positive influencing factors in physical activity including convenience of activity, results from activity, stress reliever, and are it an activity the student performs well. Negative factors that may deter students from participating in physical activity were assessed through the Likert scale too and included factors such as students felt they were already in good

shape, they wanted to avoid injury, they were tired of exercising, their workload in school makes it impossible to exercise, and walking around campus is enough exercise for them.

Overall, there are arrays of factors that influence any changes in the levels of physical activity in undergraduate students at the University of Texas-Austin. In analyzing the survey results, it is possible to have a better understanding of what positively or negatively influences these changes, if any. Since we know the levels of physical activity of college students is decreasing (Johnston, 2010), it is imperative that we look at what exactly needs to be changed in order to make college students engage in physical activity and, inevitably, stay and get healthy.

Procedure

This survey was created and developed by the researchers in order to pilot the survey amongst undergraduates at the university. To get started, in the fall semester of 2011, we decided to create a survey for a phone interview. For the phone interview, we developed five questions focused on learning some background information on our undergraduate University of Texas students. The main idea of the questions was to find out if and what changes had taken place when it came to incorporating physical activity into their lives from their high school days and through their undergraduate years.

In interviewing our subjects with our developed open ended questions, we discovered that all of the subjects were extremely different in their physical activity levels, as well as their backgrounds, including major of study, preferences of activity, and

many other factors. It was apparent that the subjects that had grown up in a household where physical activity was encouraged had clung to a notion that they should continue these habits in order to stay healthy. When it came to subjects who had not grown up in a household where physical activity was encouraged, they had not really adopted a lifestyle that included physical activity as an undergraduate student. For the most part, there were many different factors that can be attributed to the subject's changing and unchanging physical activity habits, but overall, the phone interview was a good starting point in looking into the main ideas as to they why, how, or when physical activity as an undergraduate student has changed over time. From there we wrote a survey to gather, not only demographical information, but also to gather background information on all of the variables and factors that our phone interviewees suggested as main contributors when it came to the changes in their level of physical activity.

In order to acquire data, we asked professors who teach to undergraduate students to invite them to take an on –line survey on their own time by computer. I also went to common campus areas with paper-based tests and ask undergraduate students to take the paper-based survey. I then used the system, Qualtrics, to not only collect the data but also to run the statistical findings..

The procedures for recruiting participants included e- mailing and talking to professors at The University of Texas-Austin and ask the professors to invite their undergraduate students to fill out the on-line survey by giving them the survey link. The participants could take the survey during their free time. The survey did not affect any

class participation or reflect their academic grade. The investigator is requesting a waiver of documentation of conformed consent. The survey will include a cover letter with required elements of consent.

Surveys were anonymous and there was no identifying information collected through the research or survey. Questions were not sensitive in nature and none of the answers were able to be linked back to participant's identity after the students were asked to respond to the survey about their levels of physical activity.

Chapter 4: Results

This chapter outlines the findings from the data analyses. Data analysis includes the demographics, why students do chose to participate in physical activity, why students choose not to participate in physical activity, what factors at the University of Texas influence the a student's level of physical activity, and finally, we will look at how, or if, the student's physical activity levels have changed from the previous school year.

THE ANALYSES

Demographics and Student Background

As noted earlier, there were a total of 110 total participants. Of the 110, 76 or 57.1% were female participants, while 34 or 25.6% were males. Although gender was taken into consideration when questioning the participants, it did not impact the overall findings as far as defining the factors examined in this study. Overall, 71.4% of the participants were enrolled as full-time students while 11.3% were enrolled as part-time students. When analyzing the ethnicity of the participants, we see a dominating 53.4% of students were white followed by Asian-American/Oriental Pacific with 12.8% of the participants. The ethnicity of the rest of the participants included Mexican-American with 6.8%, African-American with 3.8%, Middle Eastern and other with 2.3%, and finally Other Hispanic with 1.5%.

When it came to age, the majority of the students were between the ages of 20-25, making up 27.8% of the data. Correlating with this is the percentage, was the 36% of participants that were fourth year students compared to 24% of third year students, 20% of second year students, and a mere 13% of first year students rounding out the rest of the participants. These numbers show that the upperclassman were represented in bigger percentages than those of the underclassman and could have been more willing to take the survey; however, there is no defining information to support such theories.

The final area our survey looked at when obtaining background information on our subjects was the state in which they graduated from high school. Knowing that different states have different standards, both frail and demanding, when it comes to Physical Education (Hughes, 2008), it was important to see what their high school system was when it came to physical activity. Having information about the state in which they graduated from also allows the researchers to have some insight as to what parts of the United States may be more influential when it comes to the promotion of physical activity.

Leading the way with 48.9% of the participants was the state of Texas, followed by Illinois with 9.8% and Kansas with 4.5% rounding out the top three. Being that the university is located in Texas, it is not surprising that the results show the greatest amount of participants from that state. The rest of the states were represented with at least one participant hailing from that state. Only two participants were not high school graduates in the United States. One of these participants graduated high school from Chile and the

other from the Philippines. Although there the research has no direct way to link the amount of physical activity from each individual participant, we will be able to analyze how much demographics do play a part in the overall findings in levels of physical activity at the University of Texas.

Reasons for Engaging in Physical Activity

Finding an activity that suits a person both physically and mentally could keep them engaged and could possibly keep them motivated to turn physical activity into a lifelong regimen (Coach & Riggins, 2009). In researching the levels of physical activity, we looked to discover why our participants chose to participate in physical activity in order to discover what contributing factors play a role in their engagement. As stated earlier, we used a seven-point Likert scale which ranged from strongly agree, agree, somewhat agree, neither agree nor disagree, disagree, or strongly disagree.

College can be one of the most stressful changes to adapt to in a young person's life so it is imperative that students are aware of healthy ways to handle any stressful feelings that appear (Walters & Buck, 2011). Our results indicate that the factor with the highest percentages, 42.1% strongly agreeing and 37.7% agreeing, that students engage in physical activity the most because it releases stress.

One of the largely used excuses for why people do not engage in physical activity is that they do not have time (Pane, 2010). Based on our findings, the category with the

next highest percentage, 38.6% with agree and 24.6% with strongly agree, was students saying that the biggest factor that contributes to their engagement of physical activity is the convenience of the activity.

Physical activity and exercise not only play a role in our body's benefit, but also our mind, spirit, and social sides (Mako & Bull, 2011). It has been found that the joy one finds in a physical activity can promote them to participate regularly (Howe, 2009). Our findings, 29.8% strongly agreed and 28.9% agreed, suggest that the students report finding an activity enjoyable than other physical activities is one of the contributing factors as to why they choose to participate. Along with the joy an activity brings, the factor of success also plays a role into the physical activities chosen by our subjects. Over 30% of our subjects agreed, while over 26% strongly agreed, that how good they are at a physical activity was a factor that played into their decision-making process. The one social factor we asked our participants was related to the establishment of friendships and their choice to participate in certain physical activity. Unlike many of the non-physical related findings, students mostly reported, with 33.3%, that they neither agree nor disagree that their choice of physical activity correlates with making or keeping friends.

There are also the factors that relate to the physicality that factor into our subjects participating into physical activity. We have found that enjoyment and convenience are two leading factors when it comes to choosing a physical activity, but our findings also reveal that the physical benefits are also important. More than 23% strongly agreed and over 30% agreed that the reason they choose specific activities was due to the fact that

the activity produced more fitness results than other activities. Not as high a percentage with 21.1% agreeing, but still a contributing factor, of why students chose a particular physical activity is that it works better for their shape than other activities. These findings all indicate that factors pertaining to the body, mind, or spirit, all play a part in the choice of participation in physical activity.

When & Where Physical Activity Occurs

As our findings discovered, the convenience of an activity was one of the leading factors in our participants choosing to participate in physical activity. We looked to discover when and where our students are choosing to participate in physical activity, and it's safe to say that convenience could possibly play a large role in those decisions.

A large number, 42% of students reported exercising during the semester on the weekdays, while 39% of students reported that it doesn't matter when they exercise during the week. These two large percentages indicate that about half of the students choose physical activity during the school week while the other half has no absolute preference. This neatly explains why only 12% of students reported that they typically exercise on the weekends only. Knowing this, it seems as if students seem to be exercising more regularly during the weekdays, while juggling classes and studying.

When it comes to the time of day, 33.1% of students reported that it didn't matter when they engaged in physical activity while 24% reported they chose the afternoon and 18.8% chose night. The smallest amount of students reported that they participate in the

morning with 15%. These findings could be due to the class schedule offering more morning classes or it could indicate that students do not enjoy engaging in physical activity in the morning. Through these findings we have learned that the students reported that establishing friendships was not a high-scoring factor when it comes to choosing a physical activity, which is why the numbers indicating that they prefer to engage in physical activity alone, or mostly on their own, is not surprising. A combined 63.2% of students reported that they when it comes to physical activity, they rather be completely alone or mostly on their own. Again, this factor could relate to the idea of convenience since it could seem easier to engage in physical activity alone rather than trying to coordinate with others.

When it comes to a place to engage in physical activity, our findings suggest that most students chose a gym on campus with 25.4% agreeing that this is their place of choice. Following the campus gym, our study found that a gym found off-campus was the second highest location reported as a place to go to engage in physical activity. It appears that they gym, whether on or off campus, are the two most popular choices for our subjects to engage in physical activity. The locations with the least appeal to our subjects were in the streets, with 39.3% never participating there, followed by the 33.6% of students who reported never working out at home. The other two outdoor locations we researched, outdoor parks and outdoor campus areas, also had more students strongly disagreeing and disagreeing as these locations as desirable choices to engage in physical

activity. These findings could indicate how the climate or availability of outdoor areas could be factors in the student's lack of engaging in physical activity in outdoor settings.

Reasons Not to Participate in Physical Activity

Choosing not to participate in regular physical activity can lead to multiple health-related diseases and issues and can contribute to considerable mental deterioration (Glamble, 2012). However, there are still plenty of factors that contribute to our subjects choosing not to engage in physical activity. College is clearly a place where stress in a student can occur, which could be why the factor with the highest percentage,16.1% strongly agree, contributing to detour engagement in physical activity is that too much workload makes it impossible to do any exercise. According to our research, it is clear that academics are the number one factor that leads a student to choose not to engage in physical activity.

The factor following a student having too much workload, is the lack of proper equipment to exercise with 14.3 somewhat agreeing that it is a reason not to choose physical activity. However, this question could be said to be deceiving since the question did not indicate whether the student doesn't have access to the proper equipment in their home or access to the equipment anywhere.

However, the other factors contributing to why students reported choosing not to engage in physical activity come up miniscule in the findings. It seems that the students do not see many of the possible reasons why they could choose not to engage in physical

activity as barriers. Although all of the following factors are valid, the numbers indicate that the students did not feel these factors were major obstacles with the percentage of students agreeing or strongly agreeing with these factors as contributing to their lack of physical activity, no more than 4% in any category. These categories included being tired or doing exercise, feeling in good enough shape, walking to campus as being enough physical activity, already feeling they have reached their fitness goal, and not being able to find a facility. It is clear that although there are factors as to why they choose not to participate in physical activity, the findings show that these factors are not detouring the students from physical activity completely. Most of the findings suggest that they students disagreed or strongly disagreed that the factors were not large parts of why they chose not to engage in physical activity.

The University of Texas' Influential Factors on Student Participation in Physical Activity

The main purpose of the study was to find out the factors that influence changes, if any, of undergraduate students at the University of Texas. In order to understand what influences the changes, or if there have been changes in the student's physical activity levels, we looked to discover what key elements of university life made any impact on the student's physical activity levels.

As indicated earlier, our research shows that the student's workload was the number one contributing factor as to why a student chose not to engage in physical activity. In correlation with that discovery, we had also asked the students to report their

major of study so that we could see find how certain academic areas contributed to levels of physical activity. In analyzing our numbers, the largest amount of students in one major was 9 from Business. Following with 8 was Education, Biology and Psychology both with 5, and Computer Science with 4 students. There were 60 other reported majors all tallying at least one student from that field.

This leads us to ask ourselves about how the ease or difficulty of certain majors could influence the levels of physical activity. However, only a combined 22% of students agreed, in some form, that their major of study contributed to their overall understanding of the importance of physical activity. To add to those findings, only 8.3% strongly agreed that their knowledge of fitness has increased during their time at the university. As noted earlier, a large portion of our students are not in major areas of study where fitness is a priority in their academics.

The responsibility and time commitment to academics is large, but adding on working to a schedule could also effect a student's participation in physical activity. According to our findings, 46% of students do have jobs while enrolled in school. Of these working students, the majority, about 12%, work between 10-20 hours per week. On the other end of the spectrum, eight students reported working a full-time jobs that entails 40-plus hours per week. With not even half of our subjects working at all, it seems our subjects would have enough time during the week to implement the recommended 30-minutes, 5 days a week of physical activity. On a positive note in looking at the perception of students and physical activity, students who worked reported that they

disagreed, in some form, with almost 60% stating that they did not feel they received adequate physical activity by participation in their job.

The University of Texas, too many people, is well-equipped with gyms, recreational facilities, and areas to participate in physical activity. Our study shows that over half of the students reported that there are accessible facilities available to them, both on and off-campus. Students who reported living off campus, which made up 61% of our participants, did reveal that finding places to participate in physical activity was not as accessible as living on-campus. Although overall it was reported that The University of Texas has plenty of available facilities, it does not indicate how far or close the students who live off-campus are from these facilities. It must be shown that off-campus students have a choice in where they live and some may live farther off campus than most. However, the findings also suggest most students, 32%, walk to campus while a close 24% drive. Due to that over half of the students live off-campus, it is not surprising that there are almost a quarter of students using their car instead of engaging in a physical activity such as walking. The other forms of transportation reported were biking, with 10.5%, bus, with 14. 3%, and other with a mere 1.5%. The numbers indicate, that when it comes to transportation, the combine percentage of students engaged in physical activities, such as walking or biking, make up 42% of the students.

When it came specifically to the facilities themselves, the students reported not having many issues when it came to understanding how to use them or having safety issues. Over 60% of the students disagreed that the university's facilities were something

they didn't know how to access or use equipment. To support this number, more than half of the students reported that safety was not an issue if and when they decided not to engage in physical activity.

Socializing is an alluring attribute to why many young adults engage in physical activity (Kellner, 2008). During college, the opportunity to socialize is great, especially at a large school such as the University of Texas-Austin. Our findings show that over 30% of students reported that they engage in physical activity as a social outlet. An even larger percentage, 37%, of students says they choose not to engage in physical activity because they have found other social outlets and rather participate in them. This could indicate how over time, students begin to change how they view physical activity as an individual activity, which we discussed earlier when the findings revealed how the majority of students indicated that they prefer to do physical activities alone. According to the findings, over 26% of students reported that due to their personal priorities changing, they choose not to engage in physical activity. Again, the changes that occur in a student's personal life seem to be a contributing factor when it comes to physical activity.

Student Change and Awareness

In looking at our findings we see that over 30% of the students said that the physical activity they experience in getting to and from class has potentially contributed to the increase of their physical activity levels. This percentage makes it possible to say that most of the students choose a form of physical activity to get to their academic

engagements. From their senior year in high school, to an undergraduate student at The University of Texas-Austin, it is possible to say that both their awareness and levels of physical activity have the potential to increase, just in the fact that they must use means to get to and from class.

According to our findings, 38.3% of students reported that their levels of physical activity has increased, 22.6% said it has decreased, and 23.3% said there had been no change at all. As far as the awareness of the importance of physical activity amongst our subjects, almost half, 42%, said there has been an increase, 3% said there was a decrease, and 38% said there was no change at all. In looking at these numbers and in knowing the many contributing factors that the university has when it comes to levels of physical activity, the numbers indicate that the majority of students both participate and realize the benefits of physical activity. This also indicates a change in what they knew their previous school year as our numbers show an increase in both of these categories.

Chapter 5: Discussion

The purpose of this study was to discover the changes, if any, of undergraduate students at the University of Texas-Austin and their physical activity levels and the factors that contributed to these changes. The study looks to provide information on how student's view, and act on, their perceptions of physical activity while their lives change over their undergraduate years. In this chapter, I will begin summarizing and discussing the findings related to the research questions as well as other findings. I will then discuss the limitations of this study. Finally, I will end this chapter with implications for practice.

DISCUSSION OF THE FINDINGS

Research Question 1

The levels of physical activity amongst undergraduate students at The University of Texas-Austin and the changes in the level of physical activity and perception of physical activity through the years.

The hypothesis the researchers had was that the levels of physical activity does change, whether increasing or decreasing, as a student's undergraduate year's progress. We found how the transition from high school to college was an impactful time in a student's life and that came with an array of changes on one's lifestyle, decision-making, and academics. In looking at the results of our survey, there are definite indicators that the levels of physical activity, over time, did change in some respects.

When we looked at the data, we discovered that over half of the students surveyed said that, compared to last year; their physical activity levels did change. Obviously, since research has proven, as earlier stated in this thesis, that regular physical activity is crucial in staying healthy, we saw that more students claimed to have increased their levels of physical activity since the year before. To immediately believe that the just because the results show an increase in physical activity, we would be ignoring key factors. It could be that the students who reported increasing their level of physical activity were completely sedentary or not even meeting the recommended amounts of exercise for young adults. It is possible that some of the students, who did report the increase in levels of physical activity, truly increased it a significant amount so that they were actually meeting recommended levels of physical activity and improving their overall health. However positive one might feel about seeing the increased levels of the students surveyed, there is still the fact that we do not know how intense or vigorous their physical activity levels were before they increased them. We would need to know the intensity levels, time frame, and frequency to see if their increasing levels were enough to improve overall health and fitness.

Looking in the opposite direction, almost a quarter of students reported that their levels of physical activity had decreased. Again we must ask how intense, how long, and how often were their physical levels prior to last year. One student could have been, for example, training for a marathon or on one of the university athletics teams, so if they were no longer training or on a team, their levels may decrease, but they could still be

getting enough physical activity to keep them fit and healthy. Obviously, the opposite could be possible and a student who was participated very little in physical activity was even doing less for whatever reason.

The last factor we looked at was the more than quarter of students who claimed that their levels of physical activity did not change at all. Interpreting this, again, could have two possible explanations. Their levels may not have changed because they were already highly involved in physical activity or it didn't change and they could be either completely sedentary or participate very little in physical activity. One possible explanation for some students not changing their levels of physical activity could be because they are just doing the same amount they have always done and they just don't know what more physical activity could to improve their overall health. However, the findings could also indicate that the students are currently highly active and feel confident in their current physical state. Not changing in the levels of physical activity from the previous school year does not mean that there is not already a well-established level of physical activity. It could also be possible that they have been socialized and have had the same friends through the years who may not engage or encourage physical activity; therefore, they too have stayed in the same state when it comes to physical activity because nothing in their social life has changed. However, it might be hard to believe that every student in the study is already participating in levels of physical activity that improve their overall health.

Overall, there were changes in the levels of physical activity in over half of the participants, both in increased and decreased levels. To reiterate the earlier point, because we do not know how high or low their levels were prior to this year, it cannot be found that either an increase or decrease in physical activity levels indicate positive or negative connotations. We can say there were changes, but to deem increasing or decreasing levels as positive or negative, we cannot say.

Not only did the student's levels of physical activity change from the previous year, but so did their awareness of the importance of being physically active. The largest percentage showed that the student's awareness levels increased almost twelve times more than they decreased. Knowing that both the levels of physical activity and the awareness of the importance of physical activity increased from the previous year makes it possible to think that the undergraduate students at The University of Texas-Austin did experience a change in their levels of physical activity.

As the findings show, most students reported an increase in their levels of physical activity. In looking at this finding, it is possible to note that students are aware of their fitness and body more than they used to. As college students in Austin, the increase in physical activity could be because of the fitness community that the city promotes. With the large downtown lake with the running trail around it as the city's centerpiece, it could be that students have been motivated by their environment to increase their levels of physical activity. Another possibility is that, as we saw in the other results, could be due to the large array of fitness opportunities around town, such as organized races, running

clubs, boot camps, or intramural sports. In just walking around the UT campus, one can see many advertisements for physical activity opportunities posted on signs around common campus areas. Another explanation is that the classes that the students have to take could enlighten and teach them on concepts dealing with physical activity that they did not know from prior years. There are general education classes required by the university for everyone to take, regardless of their major, so it could be that some of the classes not intertwined with their major classes and taught them or inspired them to participate in physical activity and promote awareness.

2. (a) Where and when do they usually go to get physical activity?

(b) What environment is the most/least comfortable for students to engage in physical activity?

In looking at a large university like The University of Texas, it is possible that the amounts of classes and class times offered are scattered throughout the week, making it difficult for a student to get their preferred time and class each semester. This possibility seems truer when looking at the results of when and where the undergraduate students reported having or making time to participate in physical activity.

In looking at the results, over a third of the participants reported that when given a time of day to participate in physical activity, they said they did it whenever they had time. Being that the findings show that almost all of the participants were enrolled as full-time students, it could be that due to a full-time class load, the students are working around their classes, making it difficult to designate a set time of day to participate in

physical activity. Another explanation is that, for some students, if physical activity is not one of the most important items on their daily agenda, they may just try to fit it in whenever it is convenient around their other activities.

A combined almost half of the students reported engaging in physical activity in the afternoon and evening. This could indicate that many of the students take mostly morning classes or do not prefer getting up early to workout. Although some studies have shown that engaging in physical activity in the morning can actually help in weight loss, due to speeding up the metabolism, many students may not know the benefits of morning physical activity. Finding groups or teams to engage in physical activity may be offered only in the afternoon or evenings so the students rather work out in more of a social setting and wait to exercise later in the day. On the other hand, almost two-thirds of the students reported that not having a partner or social group to engage in physical activity with was not a deterrent factor in their decision making process, so it is not as likely that the students wait to workout later in the day just to wait for others.

In knowing when the students engage in their physical activity, it is just as important to know where they are engaging. If we know what environment the students feel more comfortable engaging in physical activity, it could lead to more conducive ways to promoting both student awareness and increasing levels of physical activity. According to the findings, the two most influential factors on student levels of physical activity were the gyms and workout facilities as well as the various exercising programs offered at the university. Not only did the students agree the gyms and facilities were

easily accessible, they also claimed to be comfortable using the gym equipment and that safety issues were not a concern.

One could speculate that reason the gyms are the most popular choice to engage in physical activity is due to the fact that the university allows every enrolled student access to all of the campus gyms, except for those designated to the faculty. Making all of the gyms essentially free, the gym could be a popular place to go with friends since they are all capable of entry. Suddenly, the social aspect of the gym comes into play. The gym is one possible place to meet significant others and socialize while engaging in physical activity. Adding a factor such as a social outlet could possibly explain the comfort level of the gym.

Safety and available hours are another possible explanation for the gyms to be a facility of choice. The gyms are well lit, unlike some of the running trails in Austin and even parts of campus that are dim and less safe. There are also people on staff at the gym the entire time so in case of a medical emergency while engaging in physical activity, one would have someone to assist them, unlike if they were riding their bike around the campus area where someone might not find them injured. Most of the gyms are open until the late hours of the night, and like mentioned earlier, most students reported to workout more in the afternoon and evening, which makes the gym an available choice.

As stated earlier, Austin has a well-known fitness community and vibe all around it. Not only is it the home to Lance Armstrong's Live Strong Foundation, it is also home

to all of the cherished Longhorn teams. This makes the fact that there is an array of organized exercise programs at the university is no surprise.

Having so many options to participate could be one reason almost half of the students reported engaging in physical activity through the university. It could be that the many choices allow more students to find their niche, making it more enjoyable to participate instead of being limited in options if they only joined a gym or signed up for a one-dimensional activity. Again, the fact that most of the intramural and exercise programs are free to enrolled university students could add to the appeal of the university exercise programs.

4. (a) What is the relationship between a students's major of study at the University of Texas-Austin and the amount and kind of physical activity?
(b) How does a student's major area affect an increase or decrease in the amount physical activity they receive?

Although any college course has its challenges, the responsibility for course work and time spent by students of a specific major of study can heavily affect the amount of physical activity the engage in during the semester. We found that the majors with the largest representation in the study were Business, Education, Biology, and Psychology. Also in our findings we saw that about eighty percent of the students stated that they engaged in physical activity to relieve levels of stress. This being said, it is possible to say that the majors that occurred the most in our study are students who are

stressed the most, hence their possible reasons for increases in physical activity. To negate that though, there was not a representative in the study from every available major on campus we do not get a panoramic view of the entire academic field in the undergraduate community.

To add to that, it is possible that when collecting the data, the reason we were unable to collect data from all areas of study was because the other fields could be wrapped up in labs, exams, or studying. It could be said that the majors that were well represented in the study were more easily available due to a less rigorous workload and had the time to engage in our study.

One piece of the study discovered that over half of the students agreed in one form that their knowledge of fitness has increased over their career as undergraduate students. This being said, the students represented in the survey were from over sixty different majors, so these findings could indicate that the university faculty as a whole makes a conscious effort to promote physical activity. However, about half of the students surveyed said that they felt that they could not find time to regularly engage in physical activity due to their academic workload. This being said, it could be that the faculty does a good job of promoting physical activity despite their content area, but this latest finding could indicate that the amount of academic work does take precedence over making time for students to engage in physical activity. This findings, however split, still shows half of the students, regardless of their major, make the time to incorporate physical activity, which could

indicates that despite their major, students are still able to balance academics and physical activity time.

Does having a job while attending college affect levels of participation in physical activity?

As if being an undergraduate student at The University of Texas is not enough work, there are some students that maintain a job while attending school. Our study found that over half of the students did have a job and that the average amount of hours worked per week was 10 and 15 hours. With such a high number of participants juggling both school and a job, it suggests why the findings also showed participating in physical activity at home was not a desirable activity. Many of the students are probably not home that often if they have a job, which also correlates with the idea that going to the easily accessible gyms.

However, when tying the fact that almost all of the participants are said to be full-time students, and over half of these students work, this could be one factor as to why most students reported that their levels of physical activity either changed or did not change at all. If students are working between 10-20 hours per week, plus taking a full-time course load of at least 12 academic hours, it could be very difficult to increase their levels of physical activities with such limited hours per week. It seems more surprising that physical activity levels did not decrease if over half of the students are working and taking on school. It seems, from the findings, that having a job seems to stall the levels of physical activity, which is better than aiding to a decrease in the levels of physical

activity. One factor to consider is that they type of jobs the students worked was not noted and there are jobs which actually do entail physical activity such as a personal trainer, fitness instructor, or coach. Many of these types of jobs require those who work there to be physically active, so the fact that many students did not claim a decrease in their levels of physical activity, could be contributed to the amounts of physical activity they get on the job.

There is no factor that stands out in saying that having a job does or does not affect the levels of physical activity. However, given the data and noting that the percentage of students who feel like their levels of physical activity either increased or stayed the same, we see that these numbers make up a majority of the students. With this being said, it is likely that having a job does not harm a student's level of physical activity.

6. **(a) Does pre-college and existing environment affect the levels of a student's level of physical activity?**

   (b) Does the year and age of the student affect the level of physical activity?

In analyzing the data, it was noted that almost two-thirds of the student participants graduated high school from the state of Texas. Although we do not know the city in Texas they hail from, this large representation makes it possible to say that many of the students grew up in surrounding areas that could know about the fitness-based

lifestyle that Austin offers to students. Sometimes when we are surrounded by a group of people who look and act fit and who participate in physical activity, they tend to stay in those same types of areas. This said, it is possible that students from Texas may choose the university because they desire to stay fit and want the opportunities that Austin offers when it comes to physical activity.

Another factor that must be considered when it comes to the states and nations represented in the study, we must be mindful of their cultures focus, or lack of, on physical activity. Only a few students were high school graduates from schools outside of the United States, but that does not mean the environment, in and out of the high schools, were any better or worse than those of students who graduated from non-Texas state high schools. For example, until recent years, Illinois was the only state that mandated five days a week of Physical Education in all middle and high schools. This is important to note because it would make it possible that students who came from state high schools that did a great or poor job implementing standards when it comes to physical activity, may continue those habits when they came to The University of Texas. However, it must be noted that in high schools in Texas, many districts only require a semester or two of physical education, yet most of our subjects are former Texas high school students. I believe that since there was not a significant amount of decreases in the amounts of physical activity, it is safe to say that students who graduated from a Texas high school must be aware that physical activity must be maintained for overall good health. Considering each state is different in the way it handles physical education and activity in

the school, I believe it does make an impact on the amount of physical activity students participate in based on the state, or country, from which they graduated high school. Because states place different values on Physical Education, I feel like it could be that students from another state may get comfortable not participating as much as they once did in high school and have maintained that attitude through their years as undergraduates. To add to these thoughts, students reported that the weather in Austin did not prevent them from participating in physical activity. This is most likely due to the fact that the majority of the participants are from Texas and are used to the year round climate here whereas other students may find it hard to engage in physical activity certain times of the year. I feel like the results indicate that there is not rapid decrease in physical activity since the kids from Texas are already acclimated to the weather and environment, making it easy to maintain physical activity in their lives.

Of the participants, almost all of them were Caucasian decent. In looking at this study, it could be said that due to the numbers indicating a high amount of students increasing or maintaining their levels of physical activity that Caucasian students regularly engage in physical activity as undergraduate students. However, there is no hard evidence that points to one race having higher or lower levels of physical activity. Being as such a diverse school as UT, I believe that based on the higher representation from certain majors of study, like teaching where many of the students are Caucasian females, it could be said that the major correlates with the kinds of participants who took the survey.

Another important factor to reflect upon is the year of the student. Our findings found that almost one-third of the participants were in their fourth year as undergraduate students, which is typically their senior year. Following the seniors were the juniors making up almost one-fifth of the participants. The sophomores followed with about eighteen percent while the freshman had the smallest representation with about a tenth of the participants. One important indicator to these numbers is that the upperclassman, specifically the juniors and seniors, represent over half of the participants and that the smallest percentages, in discussing physical activity, were that of the decreasing affects. It seems as though the older students could be the glue that keeps the number of students decreasing their levels of physical activity as well as their awareness of physical activity. As many parents and teachers reiterate, the older children must set a good example for the younger ones, we see a possible big brother connection when it comes to increasing and maintaining the levels of physical activities. The older students, who have had the possible longer careers at The University of Texas, have possibly realized the positives that are associated with physical activity. Like stated earlier, getting involved in certain physical activities have a social component, free access to gyms, and plenty of school-offered exercising programs that the older students may be taking advantage of whereas the freshman and sophomores have a ways to go.

In analyzing the main research questions, the one question that lingers around the main question, which is do levels of physical activity levels increase throughout the

undergraduate years at UT, deals with why are the students engaging or not engaging in physical activity.

According to the findings, there were a few main reasons for students to engage in forms of physical activity. The first was they liked the physical results. Students claimed that certain types of exercise helped maintain their body's particular shape and size. This makes complete sense because it could be proof that sometimes the physical activity we like the most does not always give us the results we want to see. For example, if someone loved to walk every day, but their goal was to lose weight, they might plateau and need to jog in order to increase caloric expenditure, even though they hate jogging. It seems interesting that students will engage in an activity mostly because of its results, not because it is enjoyable.

However enjoying the physical activity was another important factor when it came to physical activity levels of students. Almost three-quarters of the students surveyed agreed in some way that having enjoyment of the activity was one of the leading factors as to why they participated in physical activity. Analyzing such a large percentage, it is possible to say that the intrinsic joy someone finds in a physical activity could be the driving force into their levels of engagement. To add to the joy, the study showed that the social aspect, or engaging in physical activity with friends, was a major factor when choosing to participate. For some students, and even adults, finding a passion for a physical activity is hard, but having a partner or a whole group of people not only motivates you and is socially enjoyable, it is also a wonderful mask. Some students who

may not want anything to do with physical activity can still get some exercise, but they do not have to gain as much attention as they might when they are by themselves. The insecurity many students feel could be the reason they enjoy having a friend to accompany them in physical activities.

To counter act those reasons for engaging in physical activity, there are also the factors that contribute to not wanting to engage in physical activity. The saddest part to me was that many students stated that they feel they get enough exercise simply by getting to and from their classes. This would be great if a student lived far enough off campus to engage in a long walk, ride, or run where they are making a difference in their levels of physical activity. However the percentages were low when it came to students who claimed they felt they were already in good enough shape, they were tired of doing exercises, and that they felt they already achieved their fitness goals. The fact that students seemed to disagree, by majority, when it came to these questions as to why they did not participate in physical activity, shows that the students are participating in physical activity and they are not writing it off. This also shows how they are aware that they should be participating in physical activity. Although there are many reasons, as listed above, as to why students decided not to participate in physical activity, it is possible to say that although they recognize these reasons, they do not actually follow the reasons.

LIMITATIONS OF THE STUDY

Despite the many encouraging findings, the current research has some important limitations worth noting. First of all, the on-line survey that was developed for this study lacked questions that drew detailed information on the participants. The levels of the physical activity, for one, were not discovered, which is important if you think about the difference someone who runs for one hour at a ten minute mile pace, versus someone who runs an hour at an eight minute mile pace. Although they are both engaged in physical activity for an hour, the person keeping the eight minute mile pace could be said to working harder and gaining more fitness. To know the frequency, intensity, and specific activity of each student per week, we could have had a better idea of the actual levels themselves that the students engage in during the week.

Another limitation was that there was no solid information about each student's prior levels of awareness about physical activity prior to coming to The University of Texas. To know their perceptions of physical activity as a senior in high school as well as the year before, we could have compared the years in specific data and looked at how the university promotes physical activity to its students and the physical activity that is offered through the school. Personally, being part of the Physical Education Teacher Education team, I am exposed to a lot of dialogue, literature, and stories about physical education. If I were a master's student in mathematics, I might not get as much encouragement, unless my Professor had personal interests in physical activity. This brings me to another point, although we talked about pre-college life and physical activity, there is a gap in the information because we do not know the students home life

growing up. If we asked questions based on family-values when it comes to physical activity, we might have a better understanding as to why our results are not showing an increase in physical activity.

IMPLICATIONS

The implications seem to have some valuable information for Professors, Students, and Administrators at The University of Texas. There is always talk about how to be healthy, stay healthy, or how to stop being unhealthy. You can no longer go into a grocery store or turn on the television without an ad for weight loss remedies in a bottle or the latest and greatest plastic surgery. If The University of Texas has a clear window into the factors that makes their students engage in physical activity, and I think they will listen.

This study further implies that the free access to facilities on campus helps create a place where students feel safe and comfortable to engage in physical activity. Having an array of free exercising courses also helps support why the students preferred the gym to any other place to engage in physical activity. Not only does accessible equipment help promote physical activity, but that enjoyment in an activity is a driving force to participate.

Overall, the numbers implicated that the majority of the students did not feel that they couldn't exercise because they were unsatisfied with the facilities or activities offered at the university. It seems as if the university needs to continue to maintain it's

involvement in promoting physical activity through all of its academic departments, even if they do not specialize or have anything to do with physical activity.

The most important implication of this study is that the level of physical activity and the awareness of the benefits of physical activity can change over time. It is important to not let students fall through the cracks as their workload increases, they begin to work, or they feel stressed out. This study shows that increased levels can be achieved and that the student's awareness of the importance of physical education is important for their future lives as forever participants in physical activity.

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Vita

Megan Diane O'Connor was born in Evanston, Illinois on June 10, 1979. After completing her work at Buffalo Grove High School, Buffalo Grove, Illinois, in 1997, she entered Illinois State University. She received a Bachelor of Science in English in 2002. She went on to teach Physical Education and coach soccer for two years at Antioch High School, Antioch, Illinois.

In 2005, she moved to Austin, Texas and got a teaching job at Lake Travis Middles School. For the next three years, she taught 8th grade Language Arts before deciding to get her teacher certification in Special Education. For the next 2 years, she taught in the Special Education behavioral unit at Lake Travis Middle School. In 2009, she decided to pursue her master's degree at The University of Texas-Austin. She chose to obtain her master's in education and focusing specifically on Curriculum and Instruction. As of 2011, she is employed as a teacher at Lake Travis High School and will continue her work in the field of Special Education.

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